

What is claimed is:

[Claim 1] 1. A calcium phosphate bone cement setting to a calcium-deficient hydroxyl apatite, the calcium phosphate bone cement comprising an organic phosphate ester of orthophosphoric acid or a salt of an organic phosphate ester.

[Claim 2] 2. A calcium phosphate bone cement according to claim 1, wherein the organic phosphate ester of orthophosphoric acid is a mono phosphate ester.

[Claim 3] 3. A calcium phosphate bone cement according to claim 1, containing 0.5 to 5 percent by weight of the organic phosphate ester.

[Claim 4] 4. A calcium phosphate bone cement according to claim 3, containing less than 3 percent by weight of the organic phosphate ester.

[Claim 5] 5. A calcium phosphate bone cement according to claim 1, wherein the organic phosphate ester is glycerophosphate.

[Claim 6] 6. A calcium phosphate bone cement according to claim 1, wherein the organic phosphate ester is phosphoserine or thiamine pyrophosphate.

[Claim 7] 7. A calcium phosphate bone cement according to claim 1, further comprising mineralized collagen I.

[Claim 8] 8. A calcium phosphate bone cement according to claim 7, containing 0.5 to 5 percent by weight of the mineralized collagen I.

[Claim 9] 9. A calcium phosphate bone cement according to claim 8, containing 1 to 2.5 percent by weight of the mineralized collagen I.

[Claim 10] 10. A calcium phosphate bone cement according to claim 1, comprising tricalcium phosphate, dicalcium phosphate (anhydrous), calcium carbonate, and precipitated hydroxyl apatite.